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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,770	12/21/2004	Tomoki Ushida	122198	4828
25944 7590 05/20/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
HEYI, HENOK G				
ART UNIT		PAPER NUMBER		
2627				
MAIL DATE		DELIVERY MODE		
05/20/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/518,770

**Applicant(s)**

USHIDA ET AL.

**Examiner**

HENOK G. HEYI

**Art Unit**

2627

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5,7,8,10,11,13,14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5,7,8,10,11,13,14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments, see pages 7-11 of the remarks pages, filed 02/24/2009, with respect to the rejection(s) of claim(s) 5-14 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kikuchi et al. US 2002/0085482 A1 (Kikuchi hereinafter).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5, 7, 8, 10, 11, 13, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. US 2002/0085482 A1 (Kikuchi hereinafter) in view of Maruyama et al. 5,827,593 (Maruyama hereinafter).

Regarding claim 5, Kikuchi teaches a method for manufacturing an optical recording medium, comprising: a molding step of molding a disc-like shaped substrate including an information recording face at least on one side (When such an optical disc is manufactured, an optical disc substrate having concave and convex patterns is firstly fabricated by an injection molding method, para [0008]); a light transmitting layer formation step of forming a light transmitting layer thinner than the substrate on the information recording face (The thickness of the light transmitting sheet is typically

configured so as to be less than a thickness of the disc substrate, para [0029]); wherein a circular cut in the light transmitting layer is formed at a larger diameter than an inner diameter of the center hole in the substrate (a diameter of the penetration hole 2c is equal to or greater than a diameter of the center hole 1b, para [0049]) but Kikuchi fails to explicitly teach a cutting step of forming a circular cut in the light transmitting layer; and a punching step of punching out at least a part of an area inside the circular cut by a punching tool to divide the light transmitting layer at the circular cut and form both center holes in the light transmitting layer and the substrate, the area inside the circular cut is pressurized in a thickness direction by the punching tool to divide the light transmitting layer at the circular cut and to punch the light transmitting layer and the substrate. However, Maruyama teaches a cut-punch 6 is disposed at the center of the inner circumference holding ring 5 (see col 3 lines 60-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Kikuchi in manufacturing an optical disc so that the center hole could be cut first and then punched out as taught by Maruyama. The modification would have been obvious because of the benefit of having a two step process in acquiring a larger diameter on the light transmitting layer than an inner diameter of the center hole in the substrate.

Regarding claim 7, Kikuchi teaches the method for manufacturing an optical recording medium according to claim 5, but Kikuchi fails to teach a circular protrusion at a larger outer diameter than the inner diameter of the center hole in the substrate is formed on the information recording face at the molding step, the cut is formed in the light transmitting layer along an outer side of an outer circumference of the circular

protrusion, and the substrate is punched by the punching tool to leave an outer periphery of the circular protrusion to form an annular protrusion around the center hole in the substrate as well as to form the center hole having a larger inner diameter than an outer diameter of the annular protrusion in the light transmitting layer. However, Maruyama teaches that the first circular surface including the inner non-data region having the stack-rib of the circular protrusion and the opposite side or the second circular surface being flat (see col 4 lines 47-58).

Regarding claim 8, Maruyama teaches the method for manufacturing an optical recording medium according to claim 5, wherein a resin having fluidity is supplied to the vicinity of a center of the substrate while the substrate is rotated to allow the resin to flow outward in a radial direction by centrifugal force for spread, thereby forming the light transmitting layer at the light transmitting layer formation step (a heated molten material is injected through the sprue bushing 9 into the cavity 12 by the injection molding device connected to the bushing so that the molten material flows from the central portion towards the outer peripheral in the cavity 12, col 2 lines 1-3).

Regarding claim 10, Maruyama teaches the method for manufacturing an optical recording medium according to claim 7, wherein a resin having fluidity is supplied to the vicinity of a center of the substrate while the substrate is rotated to allow the resin to flow outward in a radial direction by centrifugal force for spread, thereby forming the light transmitting layer at the light transmitting layer formation step (a heated molten material is injected through the sprue bushing 9 into the cavity 12 by the injection molding device connected to the bushing so that the molten material flows from the

central portion towards the outer peripheral in the cavity 12, col 2 lines 1-3).

Regarding claim 11, Maruyama teaches the method for manufacturing an optical recording medium according to claim 8, wherein the light transmitting layer is made of a radiation curable resin, a radiation ray is radiated so that the light transmitting layer is semi-cured at the light transmitting layer formation step, and a reirradiation step of radiating a radiation ray again to the semi-cured light transmitting layer so as to completely cure the light transmitting layer is provided after the cutting step (A protective layer 23 made of an UV-radiation-curable resin is formed, col lines 9-19).

Regarding claim 13, Maruyama teaches the method for manufacturing an optical recording medium according to claim 10, wherein the light transmitting layer is made of a radiation curable resin, a radiation ray is radiated so that the light transmitting layer is semi-cured at the light transmitting layer formation step, and a reirradiation step of radiating a radiation ray again to the semi-cured light transmitting layer so as to completely cure the light transmitting layer is provided after the cutting step (A protective layer 23 made of an UV-radiation-curable resin is formed, col lines 9-19).

Regarding claim 14 and 17, Maruyama teaches a manufacturing device of an optical recording medium, comprising: a cutting device for forming a circular cut in a light transmitting layer of a semifinished product of an optical recording medium (A cut-punch 6 is disposed at the center of the inner circumference holding ring 5, see col 3 lines 60-61), the optical recording medium including a disc-like shaped substrate having an information recording face at least on one side and the light transmitting layer thinner than the substrate on the information recording face (The light-transmissible substrate

21b or the second disc substrate 26 inject-molded according to the invention comprises; the first circular surface to be pasted having the inner non-data region 28 formed around a center hole thereof and the outer data region 29 formed around the non-data region, col 5 lines 18-25); and a punching device for punching out at least a part of an area inside the circular cut by a punching tool to divide the light transmitting layer at the circular cut and form both center holes in the light transmitting layer and the substrate after the circular cut is formed in the light transmitting layer by the cutting device (A cut-punch 6 is disposed at the center of the inner circumference holding ring 5, see col 3 lines 60-61), but Maruyama fails to teach that the cutting device forms the circular cut at a larger diameter than an inner diameter of the center hole in the substrate, and the punching device pressurizes the area inside the circular cut in a thickness direction to divide the light transmitting layer at the circular cut and to punch the light transmitting layer and the substrate, thereby forming the center hole at a larger inner diameter than that of the center hole in the substrate in the light transmitting layer. However, Kikuchi teaches that the diameter of the penetration hole 2c is equal to or greater than a diameter of the center hole 1b (see para [0049]).

Regarding claim 16, Kikuchi teaches a method for manufacturing an optical recording medium, comprising: a molding step of molding a disc-like shaped substrate including an information recording face at least on one side (When such an optical disc is manufactured, an optical disc substrate having concave and convex patterns is firstly fabricated by an injection molding method, para [0008]); a light transmitting layer formation step of forming a light transmitting layer thinner than the substrate on the

information recording face (The thickness of the light transmitting sheet is typically configured so as to be less than a thickness of the disc substrate, para [0029]); a circular cut in the light transmitting layer is formed at a larger diameter than an inner diameter of the center hole in the substrate (a diameter of the penetration hole 2c is equal to or greater than a diameter of the center hole 1b, para [0049]) but Kikuchi fails to explicitly teach a cutting step of forming a circular cut in the light transmitting layer; and a punching step of punching out at least a part of an area inside the circular cut by a punching tool to form center holes in the light transmitting layer and the substrate. However, Maruyama teaches a cut-punch 6 is disposed at the center of the inner circumference holding ring 5 (see col 3 lines 60-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Kikuchi in manufacturing an optical disc so that the center hole could be cut first and then punched out as taught by Maruyama. The modification would have been obvious because of the benefit of having a two step process in acquiring a larger diameter on the light transmitting layer than an inner diameter of the center hole in the substrate.



***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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